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Dr. Loston visits Cleveland

Glenn embraces Education Enterprise

BY S. JENISE VERIS

On a recent visit to Cleveland, NASA's Associate Administrator for the Education Enterprise, Dr. Adena Williams Loston, got a flavor of Glenn's commitment to education and the diversity of Glenn's programs aimed at inspiring NASA's future generations.

Loston, accompanied by Dr. Clifford Houston, her deputy administrator for technical programs, and Bill Anderson, educational manager for aerospace technology, participated in several activities sponsored by Glenn's Office of Educational Programs (OEP). While on Lab, they toured facilities and participated in an education overview. They then headed downtown to a reception for the FIRST (For the Inspiration and Recognition of Science and Technology) teams of high school students and mentors at the Rock and Roll Hall of Fame. The next day, the Headquarters guests cheered the students and their robots at the Buckeye Regional FIRST Robotics Competition held in the Cleveland State University Convocation Center.

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Photo by Marvin Smith

Dr. Loston shares the excitement as 3-year-old Andrew Suttman operates a flight simulator in an educational kiosk at the FIRST competition.

Group works to unlock the knowledge

Knowledge: the sum of what is known —Webster's Unabridged Dictionary.

Why is it so hard to find information and expertise when you need it? And when you do find what you are looking for, why is it a hassle to access it?

The answers to these questions are often locked away in a maze of independent information systems that challenges even the most adept.

Glenn's Knowledge Management Working Group (KMWG) is working to "unlock the knowledge" at the Center by becoming a resource for those who wish to become better at knowledge management (KM).

"KM is about creating, using, and reusing intellectual assets effectively," explained KMWG Lead Rhonda Arterberrie, a member of the Knowledge Management and Collaborative Technologies Branch in the Information Systems Division. "To be successful, we must learn skills that allow us to find, manage, share, and use information and knowledge. Simply put, it's sharing the right information with the right people at the right time."

Established in 2000 and sponsored by Glenn's Chief Information Officer Dr. Sasi Pillay, the KMWG is a multidisciplined group of employees from information technology, human resources, training, library services, and research and technology. The group's early efforts focused on raising their own awareness of KM. They are now ready to communicate the importance of KM by raising the awareness level of others about KM and its

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Engineer sees bright future for One NASA

This is the first in a series of articles that will feature an employee from each NASA center who has a One NASA story to share.

Stennis Space Center

Since coming to work for NASA in 1995, engineer Karen Vander has seen the basis for the One NASA ideas at work every day. As the executive secretary for the Rocket Propulsion Test Management Board (RPTMB), NASA's decision-making body for the Agency's rocket propulsion testing, Vander provides the daily coordination of the board composed of NASA staff members from White Sands Test Facility, Las Cruces, NM; Marshall Space Flight Center, Huntsville, AL; Glenn Research Center, Cleveland, OH—Plum Brook Station, Sandusky, OH; and Stennis Space Center, Hancock County, MS. Vander believes the team approach used by the RPTMB is an example of what can work for the whole Agency.

"The management board *is* the One NASA concept," she said. "The board works openly in an atmosphere of trust. Everyone has a say, but the goal is to find the best match of assets for propulsion test programs."

Administrator Sean O'Keefe introduced the One NASA concept in December 2002 by asking employees to help shape the effort through their thoughts and ideas. One NASA will require each employee to consider all decisions within the context of what is best for the Agency rather than for any one organization.

"Mr. O'Keefe's support will help the Agency achieve the One NASA goal," said Vander. "With his leadership and his knowledge of Federal administration, there's no limit to what we can accomplish."

Although Vander sees One NASA ideas at work daily, she says the initiative can be fully realized only through hard work and cooperation. "We're doing it now,"

Vander at her office at Stennis Space Center.

said Vander. "We just have to strengthen what we have. We have to continue to find ways to do our jobs better. We have to work as a team."

Part of achieving the One NASA goals will mean overcoming old-fashioned, center-centric ideas. "Even though we sit in different states or come from different places, we're still one organization, and we should work that way," said Vander. "What center we come from should be nearly invisible. We all need to be working toward a common goal to meet NASA's mission."

The NASA community can help further One NASA, said Vander, by being flexible. "We're going through a lot of changes now. But as long as the communication lines keep flowing, that's going to help."

As One NASA ideas improve interagency cooperation, Vander noted, the practice will also benefit the Agency in its interactions with other Federal organizations. "We're building relationships," Vander said. "We have to build on our commonalities to strengthen the Agency."

"Karen has risen to meet every challenge we have put in front of her," said NASA's Mike Dawson, assistant director, Stennis Space Center, who has seen Vander put the One NASA values to work to benefit NASA and its relationships with other Federal agencies. "She is currently leading the development efforts of a system to accurately and efficiently track high-valued rocket propulsion test components to be used in new propulsion system designs and existing propulsion facilities throughout NASA and the Department of Defense." ◆

Glenn employee among appointees to Inventions and Contributions Board

Dr. Donald Braun, Information Services Division at Glenn, was among three new members recently appointed to the Inventions and Contributions Board (ICB) by Administrator Sean O'Keefe.

Dr. Braun

Dr. Bhat

Dr. Parrish

The ICB recommends to the Administrator waivers to property rights in inventions and individual monetary awards for significant scientific and technical contributions to NASA's aeronautical and space activities.

Braun, who is an expert in digital signal processing, brings expertise in scientific computer programming and in experimental data signal. He designs systems that evaluate the adverse effects of icing on airfoils, providing a major contribution to NASA's civil aviation efforts.

As head of the Metallurgy Research Team at Marshall, Dr. Biliyar Bhat offers significant expertise in advanced metallic materials as well as welding and allied

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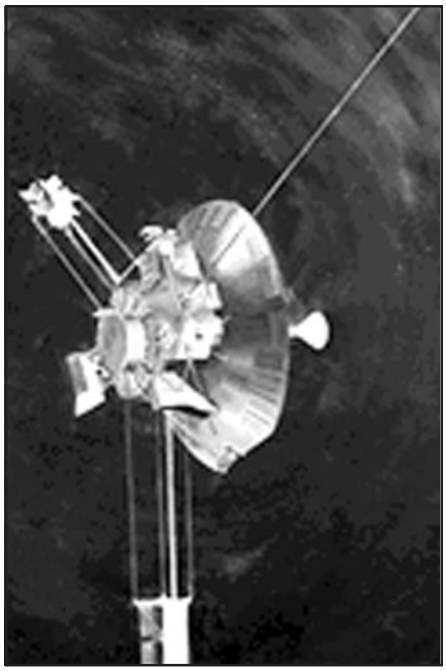

Pioneer 10 sends last signal

After more than 30 years, it appears the *Pioneer 10* spacecraft sent its last signal to Earth on January 22. Originally designed for a 21-month mission, it continued to make valuable scientific investigations in the outer regions of the solar system until its science mission ended March 31, 1997.

Engineers from Glenn launched *Pioneer 10* aboard a three-stage Atlas-Centaur rocket from Cape Kennedy on March 2, 1972, carrying Earth's first space probe to an outer planet. Built by TRW, Inc., Redondo Beach, CA, it was the fastest human-made object to leave the Earth, reaching speeds up to 32,400 mph needed for the flight to Jupiter. Not only did it explore Jupiter but it also traveled twice as far as the most distant planet in our solar system. As Earth's first emissary into space, *Pioneer 10* carries a gold plaque that describes what we look like, where we are, and the date when the mission began.

Pioneer 10 ranks among the most historic as well as the most scientifically rich exploration missions ever undertaken. More information is available at http://spaceprojects.arc.nasa.gov/Space_Projects/pioneer/PNhome.html or http://www.grc.nasa.gov/WWW/PAO/html/pioneer.htm. ◆

KM works at creating and using intellectual assets

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benefits, establishing viable KM practices to improve workgroup productivity, and aiding with testing KM software.

"Knowledge management is the identification, accumulation, and dissemination of knowledge to a wide audience of differing disciplines for different needs. Historically, we have accomplished this through traditional means such as conferences, publications, and one-on-one mentoring," Pillay explained. "With the use of information technology, knowledge sharing can be better accomplished using more effective means. This is especially important for NASA because we deal with sophisticated technologies and have to contend with a significant amount of the workforce being eligible to retire in the next 5 years."

To introduce the KM concept to the Glenn community, the KMWG has scheduled an informational and interactive fair on May 7, from 8:30 a.m. to 3:30 p.m. in the

The event will offer opportunities for employees to visit various booths to learn about KM practices, tools, and benefits. Jeanne Holm, Jet Propulsion Laboratory, lead of the NASA Knowledge Management Team, will be among the featured guests.

"The fair is meant to be a fun and exciting time for employees to learn about this Agencywide initiative," said KMWG member Anita Alexander, a member of the Information Systems Division. "We hope employees will discover that using KM concepts can help them perform their jobs more effectively—in less time and with less hassle." ◆

Knowledge Management Fair
May 7, 8:30 a.m. to 3:30 p.m.
Administration Building
Auditorium

Knowledge Management Working Group
GLENN RESEARCH CENTER

Glenn's KMWG membership

Rhonda Arterberrie, Anita Alexander, Steve Prahst, and Steve Eubanks (7105), Janet Clark (IDI/0480), Susan Oberc, and Sue Butts (0620), Merry Sherrod (0410), Dennis Kay (7160), Greg Sloane (ANLX/6100), Linda Yavoich (7100), Kim Mordaunt (0480), and Lois Scaglione (0510)

Inventions and Contributions Board

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processes that pertain to future propulsion and launch systems. He is also NASA's representative for space transportation systems partnering with DOD in development of space launch programs.

Dr. Clyde Parrish, a senior chemist in the Spaceport Technology Development Office at Kennedy, brings considerable expertise in experimental chemistry and production-scale chemical processes from industry, in addition to the experience of 20-years of graduate-level teaching. ◆

Mayor celebrates women's history

The Glenn Women's Advisory Group, chaired by Sandra Nagy (7150), presented its 2003 Women's History Month Celebration themed "Women Pioneering the Future" on March 6. Guest speaker Cleveland Mayor Jane Campbell candidly shared her challenges and highlights as a woman working in Government. She affirmed the importance of sharing women's history and providing opportunities for women to make future contributions. Additionally, the Women in History Troupe presented two portrayals of women who were pioneers in their day—Amelia Earhart and Edmonia Lewis as characterized by Charlene Connors and Sherri Tolliver. The 2003 Federal Women's Program award in the nonsupervisory category was presented to Erline Trsek (7210), see page 11.

C-2003-455 Photo by Marvin Smith

C-2003-465 Photo by Marvin Smith

SES reception

Center Director Donald Campbell hosted a reception for Center employees to meet and greet Glenn's recently selected senior executives and scientists on March 10. In welcoming remarks, Campbell respectfully noted the high level the new executives and scientists have reached and how they inspire others. He also stressed the diversity among the group, which he said is reflective of the Glenn workforce. He enthusiastically noted that a senior scientist pin, collaboratively designed by he and Rick Bailer (0400) has been adopted by the Agency. Senior executives recognized were Harry Cikanek III, Daniel Gauntner, Olga González-Sanabria, Dr. Anita Liang, Dr. Dhanireddy Reddy, and Dr. Jaiwon Shin. Senior scientists recognized were Dr. Howard Ross and Dr. James Smialek. Pictured, left to right, are Smialek, Connie Smialek, Dr. Gary Halford (5000), and Gauntner.

Thank you, researchers

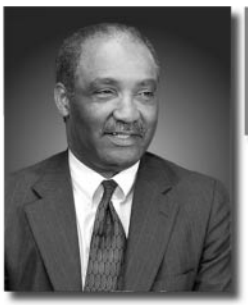
An appreciation luncheon was held February 28 recognizing 15 Glenn researchers who have lent their time and expertise to small, minority- and women-owned businesses through the Garrett Morgan Commercialization Initiative (GMCI) in 2002. Gail Wright (GLTC), GMCI program manager, and Gynelle Steele (9400), the GMCI technical representative, highlighted the researchers' efforts to assess and advance the commercialization of developing technologies by companies in Ohio, Michigan, Indiana, Illinois, and Minnesota. These technologies included wireless communication services to track physicians and patients; sensor technology to detect faults and errors in diesel engines; fiber-reinforced foam composite for blade impact; a unique high-pressure water nozzle system; hand-held security device that includes wireless audio and visual communication coupled with self-defense capabilities; and a novel system to manufacture optically transparent, hollow-glass, micro-sized spheres with a variety of applications. Pictured, left to right, are Alan Downey (5620), Dr. Félix Miranda (5640), and Chip Redding.

C-2003-396 Photo by Marvin Smith

Photo by Monica Boyd

VC hosts Wright Brothers

In celebration of the Centennial of Flight, is offering the public an opportunity to go back in time with the Wright Brothers. Through an exciting monthly program, visitors can learn about the various flight tests and other experiments the Wright Brothers performed during the development of the first flying machine. Every third Saturday of the month in 2003 at 11 a.m., the public is invited to hear Wilbur Wright (portrayed by VC volunteer Allen Loew, pictured left) speak about early aviation research. This is a fun-filled, interactive program designed for audience participation. For more information and to make reservations, call 216–433–2000. Visit the VC Web site at http://www.grc.nasa.gov/Doc/visitgrc.htm.



Director's Corner
With Donald Campbell

Life's lessons from FIRST

The FIRST (For the Inspiration and Recognition of Science and Technology) program has produced outstanding results. Students who participated have achieved knowledge of science and engineering skills that will contribute to their livelihood and be retained throughout their life.

Student teams received their tool kits in January for the 2003 FIRST Robotics Competition. That was when uniformity ended and uniqueness began. For the next 6 weeks, more than 20,000 students on nearly 800 teams from Canada, Brazil, the United Kingdom, and almost every U.S. state embarked on the adventure of designing and building their own distinctive robots.

The teams consist of high school students from urban and suburban neighborhoods, freshmen to seniors, males and females, varying cultural backgrounds and traditions. Their mentors are diverse as well—university professors, schoolteachers, NASA and industry engineers and technicians, and even their parents and neighbors. These adults work side by side with the young people to provide not only their knowledge but also their support by nurturing self-confidence and the love of science, technology, and engineering.

Locally, 63 teams of more than 1500 students participated in the Buckeye Regional FIRST Robotics Competition in Cleveland on March 8. I had the honor of attending the event, as did many of our Glenn staff. We shared the excitement of what hard work and creativity can bring and the knowledge that mentoring can open up a world of possibilities for young minds. And we all had a lot of fun.

The students of FIRST learned a valuable lesson that we at Glenn knew all along. Standard nuts, bolts, and screws, combined with innovation and ingenuity, and creativity and diversity, result in life-changing experiences. ◆

News Notes

LESA MEETING: LESA/IFPTE, Local 28, will hold its next monthly membership meeting on Wednesday, April 9, at noon in the

BPW SCHOLARSHIPS: The Glenn Business and Professional Women's (BPW) organization is offering two scholarships, each for $400 to any woman employee, civil servant or contractor, enrolled in a program of higher education. The funds can be used toward tuition, books, or related expenses. The scholarships will be awarded at the May 20 Installation of Officers meeting. Call Judy Budd, 216–433–5580, for forms and information. The deadline is April 18.

CHILI COOK-OFF: The Harvest for Hunger Second Annual Great American Chili Cook-Off is Thursday, April 24, from 11:00 a.m. to 1:30 p.m. in the upper section of the Come out to enjoy the unique chili recipes of Glenn coworkers and donate to a worthy cause. Local vendors will provide prizes for drawings.

TOCTWD: Take Our Children To Work Day (TOCTWD) will be held on Thursday, April 24. Children must be 9 to 15 years of age and either a child or grandchild of a NASA employee. A morning program will feature Gary Broadbent, "the Boomerang Man," starting at 9:30 a.m. in the Online registration for both badges and tours can be found at the Women's Advisory Group Web site at http://www.grc.nasa.gov/WWW/AdvisoryGroups/WAG/. You may register without signing up for tours to receive a badge or register for up to two tours. Refer to the Web site for badge pickup times and location.

COUPLES GOLF LEAGUE: The NASA Mixed Couples Golf League at the Links is looking for new members for the 2003 season. The 9-hole league plays Thursday evenings at The Links Golf Course in Olmsted Township. The membership fee of $25 includes prizes and monthly picnics. For more information, call Robin Prestien, 216–433–8832, or Ed Holecko, 216–676–0320.

LLF GOLF OUTING: Lewis Little Folks (LLF) onsite child development center will host its annual golf outing on Friday, May 30, at Springvale Golf Course, North Olmsted. The event begins at 8 a.m. (shotgun tee-off). The cost is $55 per person and includes green fees, cart for 18-hole game, dinner, awards presentation, and prizes. Entry deadline is May 1. Unlike last year, the entire day's activities will be held at the golf course. Contact Carmella Genaro, 216–433–5264, or Dave Williams, 440–716–0798.

GOLFERS WANTED: NASA Sunshine (Mixed) Golf League is accepting new members for their Thursday league at Riverside Golf Course. Play nine holes with tee times from 4 to 5 p.m., April 24 to September 11. Spouses and retirees are welcome. Dues are $30. For more information, contact Donna Clements, 216–433–3566.

NGA GOLF LEAGUE: The NASA Golf Association (NGA), an 18-hole traveling league that has been in existence since 1945, is seeking members. Team competitions are held each Saturday morning from May 3 through September 20 at some of the finest courses in the area. League dues are $30 and include two cookouts and league prizes. Visit the Web site at http://www. nasagolf.com, for the 2003 schedule, or call Rob Button, 216–433–8010.

FIRST: Gearing up for life

BY S. JENISE VERIS

More than 5000 spectators and participants contributed to the pandemonium that took over the Cleveland State University Convocation Center March 7 and 8 at the 2nd annual Buckeye Regional FIRST Robotics Competition. Sixty-three teams composed of high school students and mentors came from seven states and Canada to put their uniquely designed robots on the mat in a game called Stack Attack.

The exhibition of team spirit, creative design, and "out-of-the-box" problem solving left NASA's Associate Administrator for Education, Dr. Adena Williams Loston, overjoyed at the prospect of drawing these future engineers and scientists to the NASA workforce.

"We have some brilliant minds here," Loston said. "The challenge for us (NASA) is to make sure that we continue to make available the resources and support systems that will help them (students) go beyond what they have accomplished today."

Photo by Quentin Schrwinn

OEP staff, left to right, Maria Torres, Carol Galica (IDI), Regional coordinator, and Dovie Lacy enjoy a break in the competition. Craig McAtee, Unified Technology Center, Cuyahoga Community College, looks on.

Photo by Maria Torres

Team 541/Cleveland's Max S. Hayes High School celebrates as Buckeye Regional robotics champion.

This year NASA sponsored 7 of the 23 Regional competitions and 200 of the nearly 800 teams participating in the FIRST (For the Inspiration and Recognition of Science and Technology) robotics competition, including 20 of the Buckeye Regional teams sponsored through NASA's Robotics Education Project. Three teams at the Buckeye Regional were awarded grants from Glenn's Office of Educational Programs.

FIRST is designed to inspire students, their schools, and their communities to appreciate science and technology. The process of designing and building a robot to compete enables students to gain knowledge of skills such as engineering, mechanics, project leadership, time management, task sequencing, physics, computers, and teamwork.

During the competition, teams also have an opportunity to earn a number of awards and individual scholarships. Local teams taking home honors included Max S. Hayes Vocational High School, Regional Competition Champion, and East Technical High School, Regional Chairman's Award. Glenn's Director of External Programs John Hairston, Jr., was honored with the Buckeye Regional Volunteer of the Year award for his commitment to a quality education for all children and continuous support of FIRST.

Most students interviewed said that winning an award would be great, but they don't work towards an award. Rather they look forward to each year's challenge and the opportunity to meet and share ideas with some "cool" people in a diversified work environment. ◆

Photo by Marvin Smith

Cuyahoga Community College President Dr. Jerry Sue Thornton joins Dr. Loston to hand out Buckeye Regional Judges awards.

Did You Know?

While the robots are the product of the competition, the reward in competing is the long- lasting story behind FIRST.

The "Mad Cow Engineer's" robot from Team 276/Youngstown Chaney High School was inspired by FIRST founder Dean Kamen's invention of the IBOT Mobility System unveiled at the 1999 FIRST kickoff, the team's rookie year. Students built to specs the robot designed by team mentor Frank Naypaver, a tool and die maker and engineer

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Loston promotes new initiatives

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"You all represent a national treasure," Loston shared in her opening remarks at the FIRST event. "We believe in you and are committed to you because you represent mentors and explorers of tomorrow."

Maintaining a brisk pace is not unusual for Loston, who, within 4 months of accepting leadership for the Education Enterprise, has coordinated three initial charges given by Administrator O'Keefe: develop the organizational structure for the Enterprise, develop a campaign and roll out the Educator Astronaut Program, and ensure that all NASA educational programs are anchored to the President's Management Agenda with the objective of No Child Left Behind.

"The Administrator's vision is to create a new organization that elevates the level of education to that of the other enterprises because we (NASA) have to become a key player in terms of creating a pipeline that will be responsive to a future workforce," Loston said. "Glenn has been a key player in helping us to give structure by providing backbone to stand up the organization."

Loston cited the SEMAA (Science, Engineering, Mathematics and Aerospace Academy) program, founded by Glenn and Cuyahoga Community College, as an example of an exemplary NASA program that meets the six criteria established for future program funding. They include *customer focus, NASA-specific content, pipeline, diversity, partnership, and sustainability*.

"Although I have read a lot about the different centers and their educational programs, coming to Glenn, seeing and talking to the 6th and 7th grade SEMAA students about taking robotics courses—the same students who are not expected to succeed—gave me a true appreciation for the SEMAA program," Loston said. "I was overwhelmed by the multiple examples of their success."

During the educational overview, JoAnn Charleston, Glenn's OEP chief and the Center's point of contact to the Enterprise, provided updates on the SEMAA program and highlighted Glenn's tracking database along with other Glenn-initiated programs.

Additional accounts of NASA outreach were presented by two of the Center's educational partners: Terry Krivak, executive director of OAI's SMART (Science and Mathematics Achievement Required for Tomorrow) Consortium, and Gerry Noel, program director for sponsored programs at Central State University.

Loston stressed that support from NASA's educational partners is key to promoting the Enterprise's new initiatives, one of which is the Educator Astronaut Program. The support of detailees from all the NASA Centers—including two from Glenn—has enabled the roll out of this exciting program. Glenn's Dr. Marla Pérez-Davis, chief of the Electrochemistry Branch, has helped to give definition to the Education Enterprise Strategic Plan, and Dr. Chan Kim, Telecommunications and Networking Branch, has generated a daily report for the Administrator with the latest facts and figures from the Educator Astronaut Web site.

"The seat of knowledge (for Code N) does not exist at Headquarters," Loston said. "We have grown from the benefit of others sharing with us." ◆

AELs: teaching in a whole new light

BY S. JENISE VERIS

Glenn recently hosted an Aerospace Educational Laboratory (AEL) workshop bringing together AEL coordinators from across the nation. The AELs are state-of-the-art, computerized classrooms that put cutting-edge technology at the fingertips of students in grades 7 to 12. It also serves as a training facility for pre-service and in-service teachers on SEMAA (Science, Engineering, Mathematics, and Aerospace Academy) curriculum that encompasses all six NASA enterprises.

The AEL support team from Affiliated Computer Services, Inc., instructed participants on hardware and software upgrades as well as curriculum enhancements to make a more user-friendly facility for a wider range of students. The workshop also included tours of facilities where coordinators could see live demonstrations of the technology simulated in the lab.

There are now 28 AELs across the U.S. including 10 not colocated with a SEMAA program found at 4-year colleges, museums, and science centers, which enhance NASA's outreach. The AELs continues to grow in popularity and remain one of three critical components of SEMAA's structured approach to learning.

"SEMAA has become a national program with a personal touch," said Dovie Lacy, Glenn's manager. "SEMAA teachers and practitioners enjoy the opportunity to share and exchange ideas like a family. We nurture one another."

Photo by James Ely

While at Glenn, AEL coordinators practice one of the many activities that augment the SEMAA/AEL curriculum.

Interagency partners share common goals

BY DOREEN B. ZUDELL

NASA Administrator Sean O'Keefe has said that it is important for the Agency to have a direct association with the Department of Defense, stating "technology has taken us to a point where you really can't differentiate between the purely military and those capabilities which are civil and commercial in nature."

Glenn has embraced this belief since 1970 when the U.S. Army Material Command became a tenant-partner at Glenn. Operating today as the Vehicle Technology Directorate (VTD), it concentrates its activity in areas of mutual interest and benefit to NASA and the Army.

"The VTD is chartered to plan, develop, manage, and execute a portion of the Army's program in-house with concentrated effort in basic research, exploratory development, and advanced development," said Dr. Robert Bill, deputy director of the VTD. "Both the direct and hands-on technology development and contracted programs with industry are aimed at staying ahead of emerging requirements for future engine and drivetrain systems."

A model of interagency cooperation, VTD scientists and engineers are civilians who work side by side with NASA colleagues to analyze and exchange ideas and to conduct research.

VTD members, Dr. Chowen Wey and David Brewer, for example, perform significant functions in the Ultra-Efficient Engine Technology (UEET) Program. Wey manages the Environmental Impact Assessment subproject, where she assesses the impact of UEET technologies on changes to the global atmospheric composition and distribution. Her work will also provide input into a health risk assessment framework, which will be developed in partnership with the Environmental Protection Agency.

In UEET's Materials and Structures for High Performance project, Brewer manages the development of ceramic matrix composite materials. These materials are needed to reduce the cooling requirements of advanced gas turbine engines, which must be done to achieve NOx reduction goals.

Meanwhile, VTD's Gary Klann has built a solid reputation for quality, safety, and service as facility manager for Glenn's 8-by 6-, 9-by 15-, and 10-by 10-Foot Wind Tunnels.

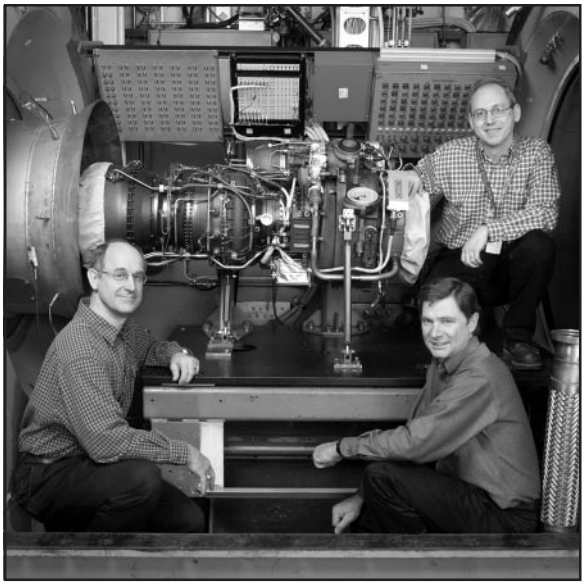

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Photo by Marvin Smith

Left to right: Dr. Michael Hathaway, Thomas Griffin (above), and Gary Skoch (0300/7565) in the Engine Components Research Laboratory working on the T–700 Active Stall Control Engine Demonstration project.

The current complement of Army personnel at Glenn is 46 civilians and 1 military officer, having from 1 to 32 years of service at the Center. They conduct vital research in programs that focus on the areas of bearings, ceramics, gears, high-temperature alloys, and computational fluid dynamics, to name a few.

"In addition to the benefit of working in Glenn's world-class laboratories and test facilities, Army personnel enjoy interacting with the talented NASA and contract workforce," said VTD's Waldo Acosta, chief of the Engine Components Division. "It's wonderful to see the two-way mentoring that occurs."

VTD and NASA jointly publish reports and have gained team recognition in the technical arena. VTD personnel have earned five prestigious *R&D 100* awards, which recognize the country's most technologically significant products.

In its 33rd year of collaborative partnership at the Center, VTD takes great pride in the work and relationships it has established with NASA. "We look forward to continuing research in established areas and forging new horizons in areas such as fuel cells and power electronics," Bill said. "Our presence at this Center enhances both VTD and NASA's ability to create a more secure world and improve the quality of life by investing in technology." ◆

Left to right: Dr. Paula Dempsey (5950), Dr. Robert Handschuh, and Dr. Timothy Krantz (0300/5950) view the gearing components of the High Speed Helical Gear Train Test Facility. This test hardware is used to investigate the thermal performance of the gearing system up to 500 hp.

Photo by Doreen Zudell

NASA Glenn Research Center
EARTH DAY 2003
FOR THE BENEFIT OF ALL

EarthFest at the Cleveland Zoo, April 11 to 13, will kick off a variety of events that Glenn's Earth Day Committee (EDC) will participate in during Earth Week, April 13 to 19. In addition to staffing informative displays, EDC will support OhioView to Webcast from the Zoo on April 11 and 12.

Richard Shank, executive director of The Nature Conservancy's Ohio Chapter and former director of the Ohio EPA, will be the featured speaker for an Earth Week presentation on April 15 at 2:30 p.m. in the
Displays of various Glenn-sponsored environmentally friendly research and initiatives along with other local organizations will be featured in the April 14 to 17.

On April 22, the EDC, along with the Aerospace Bus, will be at Youngstown State University's Earth Day Festival, sponsored by The Youngstown Environmental Studies Society. The EDC will lend resources to Lewis Little Folks (LLF) teachers who plan to relate the week's curriculum around Earth Day-related issues.

The first cleanup date to help remove litter from the I-480/Grayton Road interchange this year will be on Thursday, April 24. To volunteer, contact Fred Kohl, 216-433-2866. EDC will also support the Environmental Management Office (EMO) in organizing Clean the Creek on May 22. Volunteers will be collecting debris along
Contact Ransook Evanina, 216-433-5621, for details.

Formed in 1993 by EMO's Dan White, the EDC charter is to inform Glenn employees and the general public regarding NASA environmental activities, issues, and concerns.

Plum Brook Reactor Facility decommissioning work proceeds

Work is proceeding on the decommissioning of the closed Reactor Facility at

Decommissioning—often described as a "construction project in reverse"—is expected to be complete by the end of 2007. All buildings, radioactive components, equipment, and materials on the site will be decontaminated and removed and the area will meet the Nuclear Regulatory Commission's cleanup criteria for unrestricted use.

From 1961 to 1973, Glenn operated the facility to test the effects of radiation on materials used in spaceflight. When the facility was closed, all of its nuclear fuel was safely removed and shipped off site.

Over the past several months, the Glenn Decommissioning Team has carefully prepared for the 15-month process of segmentation, or disassembly, of the reactor internals and tank. Segmentation is a major and important part of decommissioning because the highest amounts of radiation are contained in the reactor tank, and its removal will decrease worker radiation exposure over the long haul, according to Senior Project Engineer Keith Peecook at Plum Brook.

In November, the team began installation of a cask transfer system to be used for transferring the cut pieces of the reactor internals and containment vessel to a designated, safe storage area of the Reactor Facility and for eventual shipment offsite to licensed disposal facilities.

Glenn also conducted an investigation of the reactor tank internals, opening the tank for the first time in 29 years. Actual radiation measurements were at or below levels previously predicted. Lead and asbestos—present from when the facility was operational—were also removed.

During segmentation, Glenn will employ a number of sophisticated engineering controls to minimize airborne contamination, and it will continuously monitor and sample the air inside and outside of the containment vessel.

As part of the detailed planning, project contractor WACHs Technical Services, Charlotte, NC, designed specialized tooling to be used. To test the tooling and to allow operators to train with it, a series of "mock-ups" are being used at the WACHs facility in North Carolina. These mock-ups involve structural and physical duplicates of the types of surfaces and equipment on which the tooling will be used.

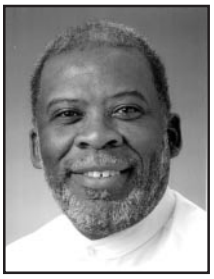
"This sort of training will be critical to minimizing the amount of time the operators will be exposed to the reactor internals and will help the overall job proceed in a safer and more efficient manner," Peecook said.

As that work proceeded, Glenn continued its outreach efforts, holding its fourth annual Community Information Session on Decommissioning in October. This featured a series of displays describing various aspects of the project, a video, and a narrated slide presentation. Decommissioning Team members and members of the project's Community Workgroup were on hand to answer questions and share their experiences with area residents. ◆

Workers explore reactor internals and interior walls of the reactor.

In Memory

Taylor leaves legacy at Glenn



Taylor

Some people have rhythm. Albert Taylor, an engineer in the Quality Management Office, brought rhythm and harmony wherever he went. Taylor, 59, who worked at Glenn for 13 years, died on March 5, due to complications from a heart attack.

Taylor, who earned an engineering degree at Case Western Reserve University in 1976, worked in manufacturing plants prior to starting at Glenn in 1990.

He was a member of the American Society of Quality Control Engineers, the National Society of Black Engineers, the Lake Erie Chapter of Blacks in Government, and the Cleveland Chapter of the National Technical Association.

Taylor enjoyed nurturing young people. He was a mentor for Glenn student interns and a judge in science fairs and Olympiads. His love for youth extended beyond the Lab to his community where he coached in the East Cleveland Little League and Police Athletic League.

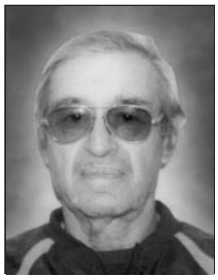
In addition to his love of family and youth, Taylor enjoyed urban line dancing and African studies. He published his first book, *Urban Contemporary Line Dancing* in 2000. The former chair of Glenn's African Heritage Advisory Council, Taylor was also in the process of writing a book on African studies.

Flanagan played vital role at Center

Flanagan

George T. "Terry" Flanagan, 61, who became part of the NASA family in 1991, recently died. Flanagan, a former marine and proud member of the IBEW local 38, worked for both the Phillips Electric Co. and Call Henry, Inc., as part of the high voltage substation crew. He played a vital role in the transition of records and databases into the computer era, verifying, researching, and inputting equipment and cable identifications to help ensure the safe operation of our distribution system. Because of his ethics and accomplishments, Flanagan will be missed, but more important he will be remembered.

John Gregg, 92, who retired in 1980 with 35 years of Government experience, recently died. While at NACA/NASA, Gregg worked as a mathematician. He published several papers in the areas of heat transfer and fluid dynamics, to name a few. His late wife, Sylvia (Northam) and stepson, Geoffrey Hewitt, also worked at the Center. Gregg was a member of the AIAA, ASME, and Black River Astronomical Society. He supported and advocated NASA's mission and vision throughout his entire life.



Gregg

William Zimmerman, 78, who worked as a firefighter at Plum Brook Station from 1962 to 1974, recently died.

United Cerebral Palsy's Board of Directors, Executive Director, and staff join the NASA family in mourning the loss of seven courageous *Columbia* crew members whose sacrifice and bravery will not be forgotten. We wish peace and strength for the crewmembers' families.

—Edward S. Pentecost
President

Exchange Corner

● The Exchange Store is offering advance tickets for the I-X Indoor Amusement Park, which runs from April 4 to 27. Tickets are $12, a savings of $4 off the gate price.

● Cleveland baseball season home opener lunch special is on Monday, April 7, featuring two hot dogs, peanuts, and a can of pop for $1.99. Stop in the Exchange Store that day where baseball fans get 20 percent off.

● Books Are Fun Book Fair will be held on Wednesday and Thursday, April 9 and 10 in the upper section of the from 9 a.m. to 2 p.m.

● Second annual Annual Harvest For Hunger Chili Cook-Off will be held on Thursday, April 24, beginning at 11 a.m., in the upper section of the Proceeds benefit the Cleveland Harvest for Hunger drive.

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DEADLINES: News items and brief announcements for publication in the May issue must be received by noon, April 11. The deadline for the June issue is noon, May 16. Submit contributions to the editor via e-mail, doreen.zudell@grc.nasa.gov, fax 216–433–8143, phone 216–433–5317 or 216–433–2888, or Ideas for news stories are welcome but will be published as space allows. View us online at http://AeroSpaceFrontiers.grc.nasa.gov.

WINNER 2002 APEX® AWARDS FOR PUBLICATION EXCELLENCE

A World of Information @ Your Library

Glenn's Technical Library is celebrating National Library Week, April 6 through 12. They will celebrate International Special Librarians Day on Thursday, April 10, with an open house from 12:30 to 3:30 p.m. Several vendors will demonstrate their products and answer your searching questions. Register for door prizes. Watch Today@Glenn for more details. Come and discover "A World of Information @ Your Library."

Did You Know?

Continued from page 6

at Delphi Packard, Warren, OH. It featured a unique drive system and wooden wheels that enabled it to perform many functions: carry, walk, push, and climb with an antiflip wheely bar on its back.

Team 494/Goodrich High School, MI, mentor Jay TenBrink from Daimler-Chrysler helped his students build a dynamometer, a diagnostics tool designed to measure wheel speed, balance, and engine torque. The "Martians" built the machine from recycled robot parts and made it available to all contestants out of professional courtesy.

Team 120/Cleveland's East Tech "Scarabian Knights," was not only the first team sponsored by NASA but also the first urban team to compete in 1995. They won the coveted National Chairman's Award 4 years later in 1999. The team was inducted into the FIRST Hall of Fame earlier this year, and repeated the feat of a Chairman's Award for the Buckeye Regional. Team mentors Orlando Antongiorgi and Nate Gucik were student members of the 1999 team.

Members of Team 883/Cleveland Central Catholic and Team 970/Shaw High School, sponsored by Cuyahoga Community College, earned from 3 to 7 credit hours this year for courses that not only enhanced their mechanical ability for FIRST but also served to jump-start their college education. ◆

People

Awards

May

Trsek

The Cleveland Chapter of the National Technical Association (NTA) honored **Rochelle May**, Flight Software Engineering Branch, with the NTA Nsoroma award in technology. May was selected based on industry-specific achievement, personal and professional fortitude, and community involvement and impact. Nsoroma is an Akan (Ghana) term that symbolizes a person of exemplary character and outstanding personal attributes.

The annual Glenn Federal Women's Program award was presented as part of the Women's History Month Observance on March 6. The award recognized civil servant contributions to the advancement of women at Glenn and participation in community service organizations. **Erline Trsek**, Information Systems Division, received this year's award in the nonsupervisory category. Trsek was recognized for leadership, goal setting, self-motivation, and activities that reach out to women and men throughout the Glenn community and beyond.

Behind the Badge

a closer look at our colleagues

Richard Kunath

Job Assignment: Chief of the Space Communications Office Project Management Branch
Time at NASA: 20 years
Hometown: I was raised in and now live in
Describe your family: Our family consists of my wife, Barb; my daughters, Erika (11) and Hailey (5); our dog, Midnight; and our rabbit, Patch.
Career alternative: I'd probably teach or do something related to working with children and their parents
Favorite food: Almost anything (and my weight is definitely starting to prove it).
Favorite music: Just about anything, but I particularly enjoy oldies.
Favorite book: C.S. Lewis' *Miracles*
Favorite movie or play: I enjoy lots of different movies and plays so I don't have a favorite. But most recently I saw *Signs*, which I really liked, and I've always liked Shakespeare's *Titus Andronicus*.
Person you most admire: Anyone who actively practices the role of serving others and those with gifts and talents that I don't have.
Activities when away from NASA: Spending time with my family, doing theological research, and working with children.
What do you see as an area of expertise to be proud of at NASA? I think we have many people who have an excellent gift for analyzing, understanding, conceptualizing, and developing new ideas.

Glenn's Safety Office reorganizes

The purpose of the Glenn Safety Office (GSO) is clear: provide services that ensure the safety of Center employees. How to best enable safety and efficiency in a research environment was the *modus operandi* for the recent GSO reorganization.

Under the reorganization, the GSO will implement three "business" lines of GSO operations—**management, engineering,** and **compliance**—to ensure effective execution of day-to-day safety operations as part of the Glenn Key Process of Enabling Services.

Safety management includes fulfilling the Agency Safety Initiative and achieving the Voluntary Protection Program (VPP) Star Certification from the Occupational Safety and Health Administration. This also includes the support to the Executive Safety Board and other councils and committees.

Safety engineering includes technical support to research and facility operations, design and construction projects, and Area Safety Center committees.

Safety compliance ensures that all regulatory requirements are addressed through programs such as confined space entry, lockout/tagout, lifting devices, and facility inspections.

The reorganization now places Kenneth O'Connor, GSO senior safety engineer, as the point of contact to initiate a line of action. This enables GSO Chief Manuel Dominguez to address strategic issues like VPP certification.

Safety conscious means being aware of your surroundings.

"My job is to motivate our staff, respond to customers requirements, and streamline how safety services are administered," O'Connor explained. "I like to think of safety in terms of three E's: educating, engineering, and enforcing. We look for the best approach for optimal performance and resolution to any given situation through sound engineering judgment and available resources."

Through professional attitude, skill, and commitment, the GSO staff will work diligently to demonstrate to its customers the value added to projects through safety and health compliance.

"Safety should not be an obstacle to mission success, but a key component of it," affirmed Dominguez.

Any individual or organizations that need assistance on a safety issue or concern, please call the GSO at 216–433–3016 or 216–433–3019. ◆

National Aeronautics and
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